U.S. Environmental Protection Agency
Scientific Integrity Program

Inquiry Report and Determination for an Allegation Involving Authorship i[redacted]

Ex. 6 Personal Privacy (PP)

Background on scientific integrity

The U.S. Environmental Protection Agency is dedicated to preserving the integrity of the scientific and scholarly activities it conducts and that are conducted on its behalf. The EPA Scientific Integrity Policy1, dated February 2012, provides principles and standards to ensure scientific integrity in the conduct, use, and communication of science. When this policy is not adhered to, or is circumvented, the robustness of EPA science and the trust in the results of our scientific work can be impacted, causing a loss of scientific integrity. Loss of scientific integrity is the result of a deliberate action by an employee that compromises the conduct, production, or use of scientific and scholarly activities and assessments. EPA strives to prevent loss of integrity in the performance of scientific and scholarly activities or in the application of science in its decision making.

Allegations of the loss of scientific or scholarly integrity are submitted to the EPA's Scientific Integrity Official. Three criteria are considered when establishing a loss of scientific integrity:

a. There is a significant departure from accepted practices of the relevant scientific or scholarly community;
b. The actions causing the loss of integrity are committed intentionally, knowingly or recklessly; and
c. The allegation is proven by a preponderance of evidence.

When the Scientific Integrity Program finds a violation, it issues recommendations to safeguard the science. When it finds no violations but believes it can assist the participants in advancing scientific integrity considerations, the Scientific Integrity Program provides advice. This report contains both.

Origin of this report

On May 21, 2019, EPA's Scientific Integrity Official received an email message from a faculty member at a U.S. university. The faculty member had noticed a paper published on EPA's website without the faculty member's knowledge or consent as a coauthor. The message described professional disagreements and a lack of trust in the paper's first author, who was employed by another federal agency, not by EPA. The message also mentioned other activities involving the first author that had been reported to the director of science quality at the other federal agency. In support, the faculty member also forwarded to the Scientific Integrity Official an email chain related to this matter.

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1 [HYPERLINK "https://www.epa.gov/risk/policy-epa-scientific-integrity"]

The faculty member made two requests of EPA:

1. To remove the paper and related materials from EPA's website, or to publish the faculty member's statement of nonsupport for the modeling method proposed in the paper.

2. To release the underlying source code to ensure transparency and scientific integrity.

Pertinent provisions of EPA's Scientific Integrity Policy

EPA's Scientific Integrity Policy, which applies to all EPA employees, promotes scientific integrity by enhancing transparency within scientific processes to "facilitate the free flow of scientific information." The Policy specifies, "The Agency will continue to expand and promote access to scientific information by making it available online in open formats in a timely manner, including access to data and non-proprietary models underlying Agency policy decisions. Further, the use of non-proprietary data and models are encouraged, when feasible, to increase transparency." [§IV.A.2]

In implementing EPA's Scientific Integrity Policy, EPA has issued *Best Practices for Designating Authorship*. These *Best Practices* specify that one criterion for authorship is that authors "Approved the final version to be published and agreed to be accountable for all aspects of the work product." [*Best Practices* §2]

Method of inquiry

As the paper's first author and principal subject of the complaint worked at another federal agency, the Scientific Integrity program called the first author's branch chief at the other federal agency to cooperate on the inquiry. The branch chief knew of the disagreement and had previously inquired into the matter.

The Scientific Integrity program called the senior EPA coauthor of the paper. The coauthor had just heard about the complaint from the other federal agency and subsequently removed the paper from EPA's website.

The Scientific Integrity program also called the director of science quality at the other federal agency to inquire if additional coordination was required or if there was additional information that might be pertinent to this allegation. There was none.

Timeline of events

March 2018	EPA posted the publication in question on its website and an EPA contractor began to conduct an external peer review of the paper.
June 2018	The EPA contractor compiled and transmitted comments from the peer reviewers to EPA.

Aug 2018	There was a flurry of email messages among the paper's coauthors, culminating in a complaint from the faculty member to the first author's branch chief at the other federal agency.
Feb 2019	EPA posted the peer review report on its website. Based on the March 2018 paper and subsequent peer review, EPA also released an updated version of a software package on its website.
April–June 2019	EPA published the source code for the software package on its website. (According to archive.org, also known as the "Wayback Machine," this occurred between April 13 and June 29, 2019.)
May 2019	EPA's Scientific Integrity Official received the allegation from the university faculty member.
May 2019	The Scientific Integrity program began to coordinate its inquiry with management at the other federal agency.
May 2019	EPA removed the paper from its website.
Sept 2019	EPA's Scientific Integrity program received confirmation that the coauthors were communicating and were close to submitting a revised joint manuscript to a scientific journal.

Findings, advice, and recommendations

Issue 1. Publication on EPA's website without external author's consent

Findings

- The publication in question was posted on EPA's website in March 2018. The paper's first author worked at another federal agency, the second author was the university faculty member who reported the allegation, and the remaining authors were three EPA employees and two EPA contractors. The paper proposed methods for averaging results from multiple computer models, and EPA intended to add these methods to a software package it had developed and made available for public use.

- An external peer review of the paper was conducted by another EPA contractor by mail between March and June 2018.

- The peer review report described the paper as a draft EPA report, though it was not marked "Draft" and did not indicate it was an EPA document. The paper resembled a manuscript that might be submitted to a scientific journal. Despite this resemblance, the posted paper was prepared for the purpose of receiving comments from the external reviewers and was posted on EPA's website to facilitate access by the reviewers.

- The email messages of August 2018 do not mention that the paper had been posted on EPA's website.

- According to the branch chief at the other federal agency in May 2019, the paper's first author was unaware it had been posted on EPA's website. Moreover, the paper had not been cleared by the other federal agency and they were willing to ask officially to have it removed from EPA's website.

- The branch chief at the other federal agency reported that the paper was being revised to be mutually satisfactory to all coauthors, including the faculty member. As of September 2019, a revised paper was ready for clearance at EPA and at the other federal agency prior to being submitted to a scientific journal.

Evaluation of criteria

Criteria for establishing a loss of scientific integrity	**Evaluation**
a. Significant departure from accepted practices	Established. EPA's *Best Practices for Designating Authorship* were not followed, as the university coauthor did not agree with the report's content and approve its publication on EPA's website. In addition, the paper's first author was unaware it had been published on EPA's website.
b. Committed intentionally, knowingly or recklessly	The material was intentionally placed on EPA's website. It is not clear the EPA coauthors knew the pertinent provisions about author consent from EPA's *Best Practices for Designating Authorship*. There is no indication these actions were taken recklessly.
c. Proven by preponderance of evidence	Proven.

Advice and recommendations

(1) EPA scientists may need a reminder about EPA's *Best Practices for Designating Authorship*. This can be accomplished during future training of scientists and managers, especially in the Office of Research and Development, where most scientific publications originate.

(2) EPA scientists and managers may need a reminder about waiting for clearance from external authors and their respective organizations.

(3) The allegation can be closed without waiting for a scientific journal decision about whether to publish the revised paper. The allegation did not concern worthiness of

publication, but rather communication and transparency among coauthors. The coauthors are now communicating.

Issue 2. Public availability of source code

Findings

- In February 2019, EPA posted an update to its software package on its website. EPA also posted the report of the peer reviewers.

- Two to four months later, EPA posted the source code on its website so it can be downloaded by the public.

Evaluation of criteria

Criteria for establishing a loss of scientific integrity	Evaluation
a. Significant departure from accepted practices	Not established. At the time of the complaint, EPA was preparing the source code for public release. The source code is now publicly available on EPA's website.
b. Committed intentionally, knowingly or recklessly	Not applicable.
c. Proven by preponderance of evidence	Not proven.

Advice and recommendations

None. The source code became publicly available when it was ready for release. EPA's increased activities regarding Public Access will bring further attention to the public availability of source code developed with EPA resources.